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ABSTRACT

To help teachers assess the variety of available instructional materials, a comparative, point-by-point evaluation is recommended. Two distinct approaches have been identified: content analysis, and instructional design. Content analysis is useful when selecting materials in factual curriculum areas, such as science and mathematics. It involves the comparison of the instructional materials against the syllabus or course objectives, and should be performed by a subject specialist. The instructional design approach concentrates on four aspects: (1) educational objectives; (2) scope and sequence of materials; (3) method of instruction; and (4) evaluation of student learning. (A three-page form which can be used to rate curriculum materials is included, as well as instructions for its use and instructions for comparing different materials). (GDC)

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Assessing the Worth of Instructional Materials

set 78
number one

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Assessing the Worth of Instructional Materials

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In recent years there has been a veritable explosion in the range of instructional materials produced for classroom use: reading laboratories, spelling laboratories, study skill schemes, structured maths apparatus, science programmes, audio-visual packages, not to mention material for overhead projectors and listening posts. During the same time improvements have been made in the staple of teaching — the

textbook. Today's texts are more carefully written, and cover a wider range of topics than previously. They are also designed to appeal more to children, and often incorporate principles intended to make them more effective instructional tools.

There also seems to be more firms and companies with textbooks or other instructional aids to sell, and they compete vigorously for a share of the market, setting aside large sums for promotion and advertising. As a result, schools and teachers are often bombarded with publishers' materials, frequently full of unsupported claims, about the effectiveness of this particular textbook or that particular learning laboratory.

Faced with a number of possibilities, how can a teacher decide if a new textbook or learning package is likely to be more helpful in reaching his instructional

goals than the materials he is using at present? And how can he decide between two rival textbooks or learning packages? One approach is to make a comparative, point by point evaluation, along the lines of the procedure suggested below.

Methods of evaluating instructional materials

The first major study of instructional materials was completed over 20 years ago, by Cronbach, and reflected the dominant position that textbooks then held as the primary medium of instruction. More recently Eash and his colleagues have identified two distinct approaches to the evaluation of instructional materials, one concentrating on content, the other on instructional design.

Content analysis

Content analysis involves comparing the instructional material with the requirements of either the national syllabus or the school scheme, in order to judge whether the material covered is appropriate to the guidelines laid down by these documents. Content analysis is obviously very important when selecting instructional material intended to enable students to master the factual content of the curriculum, particularly in 'knowledge' subjects like maths and science, and should only be done by someone completely familiar with the subject matter being assessed. It is probably not quite as appropriate for the selection of instructional material for reading, writing, speaking and listening, where the objective is to develop

generalized skills, rather than teach specific subject matter.

Instructional design analysis

The second approach to the evaluation of instructional material focuses on its design or arrangement, rather than its content. However, if the material under evaluation is in an area where knowledge is regarded as a major outcome of instruction, then an analysis of content should *precede* evaluation of the instructional design.

Four aspects of instructional design

Eash suggests that in evaluating instructional materials we concentrate on four aspects: (i) objectives, (ii) scope and sequence of materials, (iii) method of instruction and (iv) evaluation. For each of these aspects devise a set of questions and then rate the material on a numerical scale. It might be useful to devise an evaluation form, with space for details such as the title of the book, its cost, number required if adopted, class or class levels for which it is intended, and the names of the teachers doing the evaluation. Note that it is important, when comparing two textbooks or sets of instructional material, that the same teacher or team of teachers rate each item. This is to help ensure uniformity of assessment in what is, admittedly, a largely subjective exercise.

Comparison of instructional materials

Having completed your evaluation, the next step is to compare the new materials with the old or with other materials that are available and which seem to serve the same purposes. This can be done readily by means of a simple graph or chart.

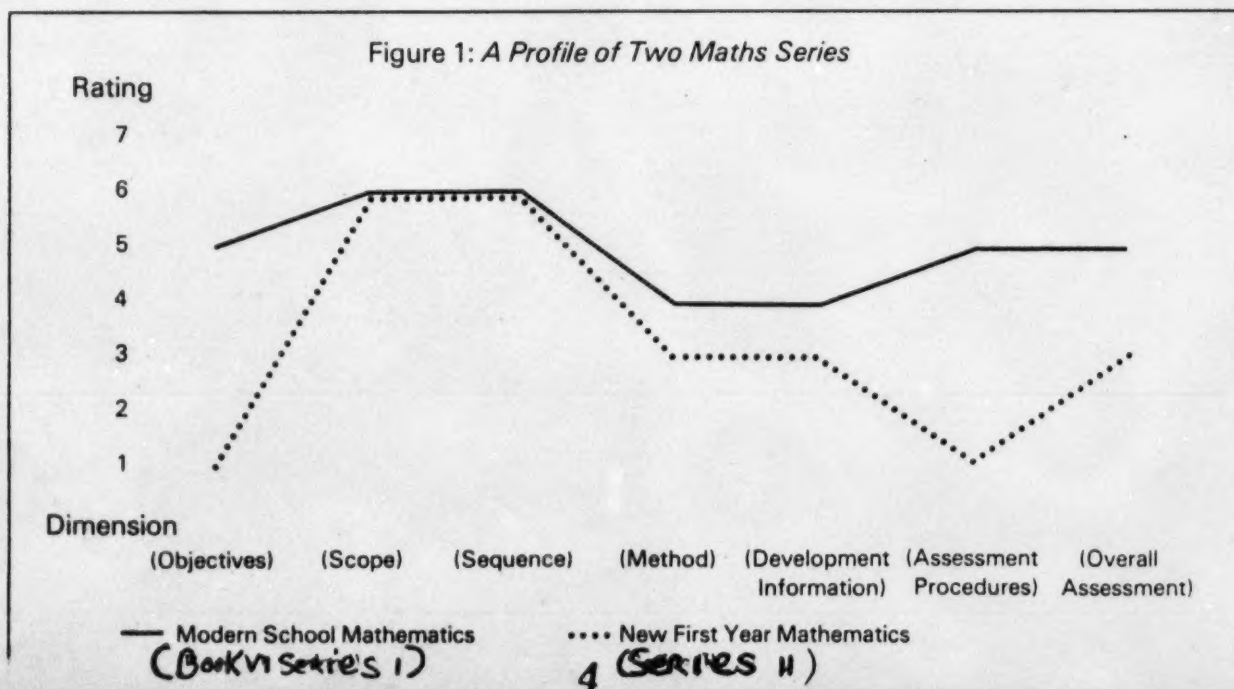
Figure 1 represents a hypothetical profile of two mathematics textbook series. In the opinion of the evaluators the books are of equal value as far as scope and sequence are concerned, but in all other respects Series 1 is superior. Thus a rational basis exists for preferring one series to the other.

If You Use This Rating Procedure:

- 1 Ensure that the content of the instructional material is relevant to your course objectives, if you consider the content to be important.
- 2 Make sure that the questions you ask of the instructional material are valid in nature. If the ones used on the examples above are unsuitable, develop your own questions.
- 3 Have 2-4 people undertake the assessment of the materials. This will help improve the reliability of the ratings.
- 4 If members of the evaluation team disagree by more than two points on any one scale try to ascertain the reasons for these differences.
- 5 Average the ratings and construct one profile to summarize individual assessments.
- 6 Use the profile as a basis for deciding what action to take, for example, purchase and use without modification; purchase and modify; purchase and arrange suitable training in use; don't purchase.

References

- Cronbach, L.J. *Text materials in modern education*. University of Illinois Press, 1955.
- Eash, M.J., Talmage, H. and Walberg, H.J. *Evaluation of Instructional Materials. TM Report 45*, ERIC Clearinghouse on Tests, Measurement and Evaluation, 1975.



A Model Evaluation Form

Page 1 of 3.

School

Class or Form

Instructional
Material — Title

Publisher

Year

Cost

Number Required

1 Objectives

- (i) What are the stated objectives?
- (ii) If no objectives are stated what do they appear to be?
- (iii) What abilities, skills or processes are stressed in the objectives?
- (iv) Rate the overall quality of the objectives by marking a numbered point on the scale below.

Objectives Rating Scale

Objectives are
unknown or of
little use to
teacher

Objectives
are clear
and relevant

1 2 3 4 5 6 7

2 Scope and sequence of materials

- (i) What major areas of content are covered?
- (ii) How is the subject matter organized?
- (iii) Is the sequence clear and logical?
- (iv) Is the sequence appropriate for the intended class or pupil level?
- (v) Does the material (both scope and sequence) fit into the planned unit of study without modification? If not, what modifications are needed and how much of the material will be unused?
- (vi) Rate the overall quality of the scope and sequence by marking a numbered point on the scales below.

A MODEL EVALUATION FORM Page 2 of 3
Scope and Sequence Rating Scales

Scope inadequate	1	2	3	4	5	6	7	Scope satisfactory
Sequence unsuitable for intended group	1	2	3	4	5	6	7	Material carefully arranged, well inter-related

3 Method of Instruction

- (i) Are any particular method(s) of teaching suggested? If 'yes' continue.
- (ii) What are the feature(s) of the suggested methods(s)?
- (iii) Do the method(s) stress the role of the teacher, the participation of the pupil, or both.
- (iv) Rate the overall quality of the suggested method(s) by marking a numbered point on the scale below.

Method Rating Scale

No teaching methods described	1	2	3	4	5	6	7	Possible teaching methods are fully described
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4 Evaluation

- (i) Is any information given on how the materials were tested during development?
- (ii) What test materials for the pupils are included?
- (iii) Is information given on the reliability and validity of these tests?
- (iv) Do the test materials allow a teacher to infer how well students are progressing towards the objectives of the instructional materials?
- (v) Rate the overall quality of the evaluation information and testing suggestions by marking a numbered point on the scales below.

A MODEL EVALUATION FORM

Page 3 of 3

Evaluation Rating Scales

No information
on development
or testing of
materials

1

2

3

4

5

6

7

Full data on
evaluation and
classroom
trials given

No materials
for assessment
given or sug-
gested

1

2

3

4

5

6

7

Contains well
designed test or
assessment
materials cover-
ing all sub-units
of material and
all objectives

5 . Overall assessment

- (i) Is the material easy to use?
- (ii) How does it compare in cost with material already in use?
- (iii) How does it relate to the curriculum?
- (iv) Assess the overall value of the material by marking a numbered point on the scale below.

Material seems
weak in instruc-
tional design.

Difficult to use
effectively.

Expensive. Does
not relate well to
curriculum

1

2

3

4

5

6

7

Material well
designed. Easy
to use. Good
value for money.
Excellent cover-
age of subject.
Of high interest
to pupils

Recommendation:

Evaluated by:

Date: